

# Pregnancy and Perinatology Branch NICHD



## Strategic Plan 2005–2010

U.S. Department of Health and Human Services  
National Institutes of Health  
National Institute of Child Health and Human Development

**Pregnancy and Perinatology Branch (PPB)  
Strategic Plan**

**Fiscal Year 2005 through Fiscal Year 2010**

U.S. Department of Health and Human Services  
National Institutes of Health  
National Institute of Child Health and Human Development

For Administrative Use  
October 2003



## TABLE OF CONTENTS

<b>Background .....</b>	<b>1</b>
<b>Summary of the PPB Planning Workshop .....</b>	<b>2</b>
<b>The PPB Strategic Plan .....</b>	<b>3</b>
<b>Ongoing Areas of Emphasis.....</b>	<b>3</b>
<i>Evidence-based Medicine in Obstetrics and Neonatology .....</i>	<i>3</i>
<i>Sudden Infant Death Syndrome (SIDS).....</i>	<i>4</i>
<i>Stillbirth .....</i>	<i>6</i>
<i>Obstetrical-Fetal Pharmacology .....</i>	<i>7</i>
<i>Neonatal Pharmacology .....</i>	<i>8</i>
<i>Maternal-Fetal Surgery .....</i>	<i>9</i>
<b>New Areas of Emphasis.....</b>	<b>9</b>
<i>Prematurity .....</i>	<i>9</i>
<i>Fetal Development, Including Maturation of Individual Organ Systems and</i> <i>Impact of Interventions on Long-Term Function.....</i>	<i>11</i>
<i>Maternal Morbidities .....</i>	<i>12</i>
<i>Neonatology (Specifically Intensive Care, and Long-Term Outcome Issues) .....</i>	<i>13</i>
<i>Fetal/Neonatal Brain Development and Damage (Including Prenatal, Perinatal,</i> <i>Neonatal, and Infant Periods).....</i>	<i>14</i>
<i>Specifically, this discussion addressed the following topics: .....</i>	<i>14</i>
<i>Training for the Future: Scientists and Physician-Scientists .....</i>	<i>15</i>
<i>Define and Improve the Link Between Fetal, Obstetrical, and Neonatal Intervention</i> <i>and Infant/Child Outcomes .....</i>	<i>18</i>
<b>Appendix A: PPB Summation for the 2003 Planning Workshop .....</b>	<b>Appendix A-1</b>
<b>History of RFAs Fiscal Year 1994 to Fiscal Year 2002 .....</b>	<b>Appendix A-1</b>
<b>PPB-Related Workshops and Conferences, Fiscal Year 1991 to Present.....</b>	<b>Appendix A-5</b>
<b>PPB Ongoing Activities .....</b>	<b>Appendix A-7</b>
<b>PPB Planned Activities Fiscal Year 2003 to Fiscal year 2004.....</b>	<b>Appendix A-19</b>
<b>Appendix B: Areas of Opportunity Statements Compiled at the</b> <b>PPB Workshop .....</b>	<b>Appendix B-1</b>
<b>Area of Opportunity: Prematurity.....</b>	<b>Appendix B-1</b>
<b>Area of Opportunity: Fetal and Embryonic Development—Maturation of Individual</b> <b>Organ Systems and Impact of Interventions on Long-Term Function .....</b>	<b>Appendix B-4</b>
<b>Area of Opportunity: Maternal Morbidities—Hypertension and</b> <b>Thrombophilias .....</b>	<b>Appendix B-8</b>
<b>Area of Opportunity: Neonatology .....</b>	<b>Appendix B-11</b>

<b>Area of Opportunity: Prenatal Screening, Diagnosis, and Fetal Therapy .....</b>	<b>Appendix B-13</b>
<b>Area of Opportunity: Fetal/Neonatal Brain Development and Damage (Including the Prenatal, Perinatal, Neonatal, and Infant Periods) .....</b>	<b>Appendix B-17</b>
<b>Area of Opportunity: Training.....</b>	<b>Appendix B-19</b>
<b>Area of Opportunity: Obstetrical, Fetal and Neonatal Interventions and Infant/Child Outcomes .....</b>	<b>Appendix B-24</b>
<b>Appendix C: PPB Staff and PPB Planning Workshop Participants.....</b>	<b>Appendix C-1</b>
<b>PPB Staff (In Alphabetical Order).....</b>	<b>Appendix C-1</b>
<b>Participants in PPB Planning Workshop .....</b>	<b>Appendix C-2</b>

## BACKGROUND

The Pregnancy and Perinatology Branch (PPB) is one of three branches in the Center for Developmental Biology and Perinatal Medicine at the National Institute of Child Health and Human Development (NICHD). The mission of the Branch is to improve the health of mothers and children, with focuses on maternal health, pregnancy, fetal well-being, labor and delivery, and the developing child.

The purpose of research supported by the Branch is to promote the acquisition of scientific information through basic, translational, and clinical investigation, that supports the Branch mission. Important research areas for PPB include: basic mechanisms underlying normal and disease processes; the identification of new treatments, methodologies and preventative strategies arising from translational and evidence-based research; and assessment of the dissemination and impact of therapeutic and preventative interventions. In addition, the Branch aims to increase scientific resources for these fields of study through recruitment and training of investigators.

In March 2001, the Branch began a process of self-assessment, reviewing the goals and mission of the Branch, its initiatives, and its portfolio in preparation for a PPB Planning Workshop to be held in 2002. This extensive internal review included large projects, such as the PPB-supported Networks, the Maternal-Fetal Medicine Unit (MFMU) Network and the Neonatal Research Network (NRN), as well as various program projects (P01s). To familiarize Branch members with the PPB portfolio, each program project was assigned to three Branch members, who reviewed, discussed, and assessed the project's progress since initiation, contributions to the field, and novelty. Seminars held by the NICHD Center for Research on Mothers and Children (CRMC) also gave Network program officers the opportunity to present updates on their projects to Branch members; other discussions were held on projects within the sudden infant death syndrome (SIDS) portfolio. Prior to the PPB Planning Workshop, the Branch members also reviewed the NICHD SIDS Strategic Plan, the Society for Maternal Fetal Medicine's *Research Priorities in Maternal Fetal Medicine*, and the *Committee Research Agenda* from the American Academy of Pediatrics (AAP) Section on Perinatal Pediatrics.

As a result of these inquiries, Branch staff identified research priorities in three areas: 1) Areas already under investigation that remained important; 2) Areas that needed stimulation; and 3) Areas that needed new approaches or directions. Based on these general areas, Branch staff identified 10 target research areas for the PPB Planning Workshop. In addition, the Branch prepared background information for the Workshop, including the Branch's history, the Request for Applications (RFAs), contracts, workshops and conferences, grant portfolios, ongoing activities, and planned activities for fiscal year 2003 and fiscal year 2004 (See Appendix A).

## **SUMMARY OF THE PPB PLANNING WORKSHOP**

In December 2002, the PPB convened its two-day Planning Workshop to develop a research agenda that would help guide Branch activities and priorities for the years 2005 through 2010. The Branch invited 14 eminent scientists to the Workshop to identify the needs of the scientific community served by the PPB and to prioritize Branch scientific areas and research issues.

During the bulk of the Workshop, participants discussed the Areas of Opportunity, based on prepared statements that detailed important new directions for research, and on the recommendations of PPB staff. The final half-day focused on priority setting by the group. Additional follow-up activities included the development and finalization of the group's recommendations. The findings from and recommendations of this PPB Planning Workshop formed the basis for this Strategic Plan document.

The participants were assigned as champions for one of the Areas of Opportunity and developed summary sheets on each topic. These summations were revised after the workshop to include items from these discussions (see Appendix B).

The Areas of Opportunity discussed during the Workshop included:

- Prematurity;
- Fetal development, including maturation of individual organ systems and impact of interventions on long-term functional outcomes;
- Maternal morbidities;
- Neonatology, specifically intensive care and long-term outcome issues;
- Fetal/neonatal brain development and damage (including prenatal, perinatal, neonatal, infant periods, and environmental effects on child development);
- Training for the future: scientists and physician-scientists; and
- Links between fetal, obstetrical and neonatal intervention and infant/child outcome.

In addition, workshop participants discussed several cross-cutting themes that were relevant to all areas of opportunity, including:

- Infrastructure resources;
- Environmental and genetic influences;
- Health disparity issues;
- Technology development, including the application of new technologies (e.g., genomics, proteomics, fMRI, bioinformatics, etc.) in pregnancy and perinatology research; and
- Research risk and ethical aspects of research.